SUMMARY OF WORKING DRAFT OF PROPOSED RULE FOR PLYWOOD AND COMPOSITE WOOD PRODUCTS NESHAP AUGUST 2002

****

This document is intended to provide you a summary of requirements as they might appear in the upcoming Plywood and Composite Wood Products MACT proposal. This document is a draft and based on information which could change. This summary is intended for informational purposes, does not constitute final agency action, and cannot be relied upon to create any rights enforceable by any party.

****

APPLICABILITY

The proposed National Emission Standards for Hazardous Air Pollutants (NESHAP) would apply to new and existing facilities that manufacture plywood and composite wood products (PCWP) and are major sources of hazardous air pollutants (HAP). PCWP include (but are not limited to) plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams. A major source of HAP is a facility with potential to emit at least 10 tons/yr of any single HAP or 25 tons/yr of any combination of HAP.

BACKGROUND

This action proposes to add subpart DDDD to 40 CFR part 63, pursuant to section 112 of the Clean Air Act (CAA). Section 112 of the CAA required EPA to list categories of major and area sources of HAP and to establish NESHAP for the listed source categories. The PCWP source category was originally listed as the "plywood and particleboard" source category, but the name of the source category was changed to "plywood and composite wood products" to more accurately reflect the types of manufacturing facilities included in the source category.

POLLUTANTS REGULATED AND NATIONAL EMISSION REDUCTIONS

The proposed standards would limit emissions of HAP including acetaldehyde, acrolein, formaldehyde, methanol, phenol, propionaldehyde, and other HAP. Implementation of the proposed standards would reduce HAP emissions from the PCWP source category by approximately 11,000 tons per year (tons/yr). In addition, the proposed standards would reduce emissions of volatile organic compounds (VOC) (measured as THC) by approximately 27,000 tons/yr.

NATIONAL COSTS

The estimated total capital costs of the proposed standards for existing facilities are $479 million and the estimated annualized costs are $142 million.

SUMMARY OF PROPOSED NESHAP (SUBPART DDDD)

Applicability

The proposed standards establish **control requirements (i.e., compliance options and operating requirements)** and/or work practice requirements for the various HAP-emitting process units that comprise a PCWP facility that is a major source of HAP emissions. Table 1 lists the process units and specifies whether the proposed standards include control requirements or work practice requirements for the process units. The process units with control requirements are defined in the proposed standards. A list of definitions is provided in Attachment 1.

TABLE 1. PROCESS UNITS SUBJECT TO THE PROPOSED CONTROL REQUIREMENTS

Process unit[a]	Do the proposed standards include control requirements for process units...	
	at existing sources?	at new sources?
Softwood veneer dryers; tube dryers; strand dryers; green rotary dryers; hardboard ovens; reconstituted wood product presses; and pressurized refiners	Yes	Yes
Press predryers; fiberboard mat dryers; and board coolers	No	Yes

Process unit[a]	Do the proposed standards include control requirements for process units...	
	at existing sources?	at new sources?
Dry rotary dryers; *veneer redryers*; plywood presses; engineered wood products presses; *hardwood veneer dryers*; humidifiers; atmospheric refiners; stand-alone digesters; formers; blenders; rotary agricultural fiber dryers; agricultural fiber board presses; sanders; saws; fiber washers; chippers; log vats; lumber kilns; storage tanks; wastewater operations; and miscellaneous coating operations	No	No

[a]The proposed standards include work practice requirements for the process units appearing in *italics*. Note that softwood veneer dryers are subject to both work practice requirements and control requirements.

Compliance Schedule

Existing PCWP facilities must comply within three years of the effective date (i.e., the date the promulgated rule is published in the Federal Register). New sources that commence construction after the proposed rule is published in the Federal Register must comply immediately upon initial startup or on the effective date of the rule, whichever is later.

Compliance Options

The proposed standards contain three compliance options: production-based limits on total HAP emissions from process units without add-on control systems, (2) concentration or percent reduction limits for the outlet of an add-on control system, and (3) emissions averaging (for existing sources only). Each process unit with control requirements must meet only one of the three compliance options. Tables 2 and 3 summarize the production-based compliance options and emission control system compliance options, respectively. Emissions averaging is summarized below.

TABLE 2. PRODUCTION-BASED COMPLIANCE OPTIONS[a]

Process unit	**Production-based compliance option (total HAP[b] basis)...**
Fiberboard mat dryer heated zones (at new affected sources only)	0.022 lb/MSF ½"

Process unit	Production-based compliance option (total HAP[b] basis)...
Green rotary dryers	0.058 lb/ODT
Hardboard ovens	0.022 lb/MSF 1/8"
Press predryers (at new affected sources only)	0.037 lb/MSF ½"
Pressurized refiners	0.039 lb/ODT
Tube dryers	0.26 lb/ODT
Reconstituted wood product board coolers (at new affected sources only)	0.015 lb/MSF 3/4"
Reconstituted wood product presses	0.30 lb/MSF 3/4"
Softwood veneer dryer heated zones	0.022 lb/MSF 3/8"
Strand dryers	0.18 lb/ODT

[a]Add-on control systems cannot be used to meet the production-based compliance options.
[b]"Total HAP" is defined as the sum of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde emissions. lb/ODT = pounds per oven dried ton; lb/MSF = pounds per thousand square feet with a specified thickness basis (inches).

TABLE 3. ADD-ON CONTROL SYSTEM COMPLIANCE OPTIONS

Process units subject to a compliance option	Emissions control system compliance options
Fiberboard mat dryer heated zones (at new affected sources only); Green rotary dryers; Hardboard ovens; Press predryers (at new affected sources only); Pressurized refiners; Tube dryers; Reconstituted wood product board coolers (at new affected sources only); Reconstituted wood product presses; Softwood veneer dryer heated zones; and Strand dryers	(1) Reduce emissions of total HAP, measured as THC (as carbon)[a], by 90 percent; or (2) Limit emissions of total HAP, measured as THC (as carbon)[a], to 20 parts per million by volume, dry (ppmvd); or (3) Reduce methanol emissions by 90 percent; or (4) Limit methanol emissions to less than or equal to 1 ppmvd if uncontrolled methanol emissions entering the control device are greater than or equal to 10 ppmvd; or (5) Reduce formaldehyde emissions by 90 percent; or (6) Limit formaldehyde emissions to less than or equal to 1 ppmvd if uncontrolled formaldehyde emissions entering the control device are greater than or equal to 10 ppmvd.

[a]Methane may be subtracted from THC as carbon measurements.

Under the **emissions averaging compliance option**, "debit-generating process units," which are the PCWP process units required to meet the proposed compliance options, may be either uncontrolled or under-controlled. "Credit-generating process units" may be controlled instead of the debit-generating PCWP process units. Emissions averaging is based on total HAP emissions (i.e., the total mass of acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde). The required mass removal (RMR) would be based on an initial total HAP performance test for each debit-generating process unit, the process unit operating hours for a 6-month period, and a 90 percent control system efficiency. The RMR for debit-generating process units would have to be achieved or exceeded by the actual mass removal (AMR) of total HAP achieved by credit-generating process units. The AMR is determined based on initial performance tests, the total HAP removal efficiency of the control systems used to control the credit-generating process units, and process unit operating hours over the 6-month period. Restrictions on use of the emissions averaging provisions are as follows:

- Emissions averaging could not be used at new affected sources.
- Control devices used for credit-generating process units may not be assigned more than 90 percent control efficiency.
- Only PCWP process units with add-on control systems may be used to generate credits.

< The emissions average cannot include process units located outside the affected source; process units that are not operating or are shut down; or process units controlled to comply with a State or Federal rule other than the PCWP standards (unless the process unit was included in an emissions average and the control system was installed before the process unit was subject to the other State or Federal rule).

Work Practice Requirements

The work practice requirements apply to softwood veneer dryers, dry rotary particle dryers, hardwood veneer dryers, and veneer redryers. The work practice requirements are summarized in Table 4.

TABLE 4. WORK PRACTICE REQUIREMENTS

Process unit	Work practice requirement
Dry rotary dryers	process furnish with a 24-hour block average inlet moisture content of less than or equal to 30 percent (by weight, dry basis); and operate with a 24-hour block average inlet dryer temperature of less than or equal to 600°F.
Hardwood veneer dryers	process less than 30 volume percent softwood species on an annual basis.
Softwood veneer dryers	minimize fugitive emissions from the dryer doors through (proper maintenance procedures) and the green end of the dryers (though proper balancing of the heated zone exhausts).
Veneer redryers	process veneer that has been previously dried, such that the 24-hour block average inlet moisture content of the veneer is less than or equal to 25 percent (by weight, dry basis).

Operating (Monitoring) Requirements

Continuous parameter monitoring is required for process units subject to the compliance options and operating requirements. Continuous parameter monitoring values must be established during the initial performance test that shows compliance with the selected compliance option. Table 5 summarizes the operating requirements. Continuous parameter monitoring is also required for dry rotary dryers and veneer redryers which are subject to work practice requirements. The continuous parameter monitoring requirements for dry rotary dryers and veneer redryers are summarized in Table 4 above.

TABLE 5. OPERATING REQUIREMENTS

Control system		Operating requirement
Thermal oxidizer	<	maintain the 3-hour block average firebox temperature above the minimum temperature established during the performance test; and
	<	maintain the 3-hour block average static pressure at the inlet of the thermal oxidizer within the operating range established during the performance test
		OR
	<	maintain the 3-hour block average firebox temperature above the minimum temperature established during the performance test; and
	<	maintain the 3-hour block average gas flow at the outlet of the thermal oxidizer below the maximum flow rate established during the performance test
		OR
	<	maintain the 3-hour block average THC concentration[a] in the thermal oxidizer exhaust below the maximum concentration established during the performance test
Catalytic oxidizer	<	maintain the 3-hour block average temperature upstream of the catalyst bed above the minimum temperature established during the performance test; and
	<	maintain the 3-hour block average static pressure at the inlet of the catalytic oxidizer within the operating range established during the performance test; and
	<	maintain and operate the catalyst according to manufacturers specifications
		OR
	<	maintain the 3-hour block average temperature upstream of the catalyst bed above the minimum temperature established during the performance test; and
	<	maintain the 3-hour block average gas flow at the outlet of the catalytic oxidizer below the maximum flow rate established during the performance test; and
	<	maintain and operate the catalyst according to manufacturers specifications
		OR
	<	maintain the 3-hour block average THC concentration[a] in the catalytic oxidizer exhaust below the maximum concentration established during the performance test; and
	<	maintain and operate the catalyst according to manufacturers specifications

TABLE 5. OPERATING REQUIREMENTS

Control system		Operating requirement
Biofilter	<	specify appropriate monitoring methods, monitoring frequencies, averaging times, and operating ranges for the temperature of the air stream entering the biofilter, pH of the biofilter effluent, and pressure drop across the biofilter bed based on initial performance testing or previous (historical) performance testing; and maintain these parameters within the ranges established (Note: Parameter operating ranges can be based on values recorded during historical performance tests provided that the data used to establish the operating ranges have been obtained using the test methods specified in Table 6. If you use data from previous performance tests, you must certify that the biofilter and associated process unit(s) have not been modified subsequent to the date the historical data were collected. If historical operating records are not readily available, as would be the case for a new biofilter installation, you will be allowed up to 180 days following the compliance date to gather data necessary to establish your site-specific biofilter operating parameter monitoring requirements.)
		OR
	<	maintain the 3-hour block average THC concentration[a] in the biofilter exhaust below the maximum concentration established during the performance test
Control device other than a thermal oxidizer, catalytic oxidizer, or biofilter	<	petition the Administrator for site-specific operating parameter(s) to be established during the performance test and maintain the average operating parameter(s) within the range(s) established during the performance test
		OR
	<	maintain the 3-hour block average THC concentration[a] in the control device exhaust below the maximum concentration established during the performance test
Process unit that meets a production-based compliance option	<	maintain the 3-hour block average inlet temperature below the maximum inlet temperature established during the performance test if the process unit is a green rotary dryer, tube dryer, or strand dryer; or
	<	maintain the 3-hour block average process unit operating temperature below the maximum operating temperature established during the performance test if the process unit is a hardboard oven, press predryer, or reconstituted wood product press; or
	<	maintain the 3-hour block average operating temperature in each of the hot zones below the maximum hot zone temperatures established during the performance test if the process unit is a fiberboard mat dryer or softwood veneer dryer.
		OR
	<	maintain the 3-hour block average THC concentration[a] in the process unit exhaust below the maximum concentration established during the performance test

[a]Methane may be subtracted from THC measurements.

Startup, Shutdown, and Malfunction and Control Device Maintenance

Facilities must comply with the compliance options, operating requirements, and work practice requirements at all times except during startup, shutdown, and malfunction; prior to initial startup; and during times when a routine control maintenance exemption is effective. Facilities must develop a written startup, shutdown, and malfunction plan (SSMP). To the extent practical, startup and shutdown of the emissions control system must occur when the process units controlled are also shut down. Facilities may request (with sufficient justification) a routine control device maintenance exemption so that compliance options and operating requirements would not apply when control device maintenance covered under the exemption is performed. The routine control device maintenance exemption must not exceed 3 percent of annual operating uptime for each green rotary dryer, tube dryer, strand dryer, or pressurized refiner controlled. The routine control device maintenance exemption must not exceed 0.5 percent of annual operating uptime for each softwood veneer dryer, reconstituted wood product press, reconstituted wood product board cooler, hardboard oven, press predryer, or fiberboard mat dryer controlled. If the control device is used to control a combination of equipment, then the highest percentage of annual operating uptime applies (e.g., 3 percent for a tube dryer and a reconstituted wood product press).

Testing Requirements

Initial testing is required for process units subject to control requirements. Table 6 summarizes the emission test methods and procedures that must be used. There are several options for test methods; only one of the emission test methods/procedures that apply to the selected compliance option is required (e.g., testing for total HAP may be conducted using either Method 320 or NCASI Method IM/CAN/WP-99.01). Testing is to be conducted under representative operating conditions within 180 days after the compliance date (except for facilities using emissions averaging which necessitates earlier performance tests). Tests must consist of three test runs of at least 1 hour each (except for capture efficiency testing of enclosures).

Exception to the Testing and Operating (Monitoring) Requirements

Process units subject to the control requirements that are controlled by routing exhaust to a combustion unit with heat input capacity $44 megawatts are exempt from the testing and operating (monitoring) requirements. Documentation must be submitted (a one-time submittal) to qualify for this exemption. The documentation must show: (1) that the combustion unit has a heat input capacity $44 megawatts, and (2) that the process exhausts controlled enter into the flame zone of the combustion unit.

TABLE 6. PERFORMANCE TEST METHODS AND OTHER PROCEDURES

Test method or procedure	Purpose of method
-Method 1 or 1A of 40 CFR part 60, appendix A (as appropriate).	select sampling port's location and the number of traverse ports
-Method 2 in addition to Method 2A, 2C, 2D, 2F, or 2G in appendix A to 40 CFR part 60 (as appropriate).	determine velocity and volumetric flow rate
-Method 3, 3A, or 3B in appendix A to 40 CFR part 60 (as appropriate).	conduct gas molecular weight analysis
-Method 4 in appendix A to 40 CFR part 60.	measure moisture content of the stack gas
-Method 25A in appendix A to 40 CFR part 60. Emissions of methane may be measured using EPA Method 18 in appendix A to 40 CFR part 60 and subtracted from the emissions of total HAP as THC.	measure emissions of total HAP as THC
-Method 320 in appendix A to 40 CFR part 63; OR -NCASI Method IM/CAN/WP-99.01 (incorporated by reference).	measure emissions of total HAP
-Method 308 in appendix A to 40 CFR part 63; OR -Method 320 in appendix A to 40 CFR part 63; OR -NCASI Method CI/WP-98.01 (incorporated by reference); OR -NCASI Method IM/CAN/WP-99.01 (incorporated by reference).	measure emissions of methanol
-Method 316 in appendix A to 40 CFR part 63; OR -Method 320 in appendix A to 40 CFR part 63; OR -Method 0011 in "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods" (EPA Publication No. SW-846) for formaldehyde; OR -NCASI Method CI/WP-98.01 (incorporated by reference); OR -NCASI Method IM/CAN/WP-99.01 (incorporated by reference).	measure emissions of formaldehyde
-Methods 204 and 204A through 204F of 40 CFR part 51, appendix M. Enclosures that meet the Method 204 requirements for a PTE are assumed to have a capture efficiency of 100%. Enclosures that do not meet the PTE requirements must determine the capture efficiency by constructing a TTE according to the requirements of Method 204 and applying Methods 204A through 204F (as appropriate); OR -The tracer gas method being proposed in the appendix to subpart DDDD.	determine the percent capture efficiency of each enclosure around a reconstituted wood product press at a new or existing affected source or reconstituted wood product board cooler at a new affected source
-Performance Specification 8 of 40 CFR part 60, appendix B and Procedure 1 of 40 CFR part 60, appendix F	evaluate the performance of THC CEMS

Notification, Reporting and Recordkeeping Requirements

Each affected source must submit an initial notification stating that the facility is subject to the PCWP standards. The initial notification must be submitted within 120 days after the effective date (i.e., the date the promulgated rule is published in the Federal Register). Facilities required to conduct performance tests must submit a notification of intent to conduct a performance test 60 days prior to the test. A Notification of Compliance Status (NCS) must be submitted following initial compliance demonstrations. For initial compliance demonstrations involving performance tests, the NCS must be submitted (along with the performance test results) within 60 days after the performance test. For other initial compliance demonstrations, the NCS must be submitted within 30 days after the demonstration. Requests for a routine control device maintenance exemption (which are optional) must be submitted 30 days before the compliance date. Emissions Averaging Plans (EAP) must be submitted 1 year prior to the compliance date. The EAP must identify debit and credit generating process units, describe and provide the control efficiency for control systems to be used for credit-generating process units, document calculation of the RMR, and describe operating parameters that will be monitored for each credit-generating process unit.

Each affected source must submit semiannual compliance reports including information pertaining to any startup, shutdown, or malfunction during reporting period; control device maintenance performed while the control device was offline and the process unit(s) controlled by the control device operated; results of any performance tests conducted during the reporting period; deviations from operating or work practice requirements; and periods when continuous monitoring systems were out of control. In addition, a startup, shutdown, and malfunction report must be submitted immediately if there was a startup, shutdown, or malfunction during the reporting period that is not consistent with the SSMP.

Facilities must keep the following records: copies of each notification and report; records related to startup, shutdown, and malfunction; records related to control device maintenance; records of performance tests; records to show continuous compliance with each compliance option, operating requirement, and work practice requirement (e.g., parameter monitoring data, percent softwoods processed in a hardwood veneer dryer, documentation that softwood veneer dryer fugitive emissions minimization plan was followed); records related to THC CEMS (if used); and information used to calculate emission debits and credits if emissions averaging is used.

ATTACHMENT 1

DEFINITIONS INCLUDED IN PROPOSED STANDARDS

Affected source means the collection of dryers, blenders, formers, presses, board coolers, and other process units associated with the manufacturing of plywood and composite wood products at a plant site. The affected source includes, but is not limited to, green end operations, drying operations, blending and forming operations, pressing and board cooling operations, and miscellaneous finishing operations (such as sanding, sawing, patching, edge sealing, and other finishing operations not subject to other NESHAP). The affected source also includes onsite storage of raw materials used in the manufacture of plywood and/or composite wood products, such as resins; onsite wastewater treatment operations specifically associated with plywood and composite wood products manufacturing; and miscellaneous coating operations (defined elsewhere in this section). The affected source includes lumber kilns at PCWP manufacturing facilities and at any other kind of facility.

Biofilter means an enclosed control system such as a tank or series of tanks with a fixed roof that are filled with media (such as bark) and use microbiological activity to transform organic pollutants in a process exhaust stream to innocuous compounds such as carbon dioxide, water, and inorganic salts. Wastewater treatment systems such as aeration lagoons or activated sludge systems are not considered to be biofilters.

Capture device means a hood, enclosure, or other means of collecting emissions into a duct so that the emissions can be measured.

Capture efficiency means the fraction (expressed as a percentage) of the pollutants from an emission source that are collected by a capture device.

Catalytic oxidizer means a control system that combusts or oxidizes, in the presence of a catalyst, exhaust gas from a process unit. Catalytic oxidizers include regenerative catalytic oxidizers and thermal catalytic oxidizers.

Control device means any equipment that reduces the quantity of a hazardous air pollutant that is emitted to the air. The device may destroy the hazardous air pollutant or secure the hazardous air pollutant for subsequent recovery. Control devices include, but are not limited to, thermal or catalytic oxidizers, combustion units that incinerate process exhausts, biofilters, and condensers.

Control system or add-on control system means the combination of capture and control devices used to reduce hazardous air pollutant emissions to the atmosphere.

Deviation means any instance in which an affected source subject to this subpart, or an owner or operator of such a source:

(1) Fails to meet any requirement or obligation established by this subpart including, but not limited to, any compliance option, operating requirement, or work practice requirement;

(2) Fails to meet any term or condition that is adopted to implement an applicable requirement in this subpart, and that is included in the operating permit for any affected source required to obtain such a permit; or

(3) Fails to meet any compliance option, operating requirement, or work practice requirement in this subpart during startup, shutdown, or malfunction, regardless or whether or not such failure is permitted by this subpart.

Dryer heated zones means the zones of a softwood veneer dryer or fiberboard mat dryer that are equipped with heating and hot air circulation units. The cooling zone(s) of the dryer through which ambient air is blown are not part of the dryer heated zones.

Dry rotary dryer means a rotary dryer that dries wood particles or fibers with a maximum inlet moisture content of less than or equal to 30 percent (by weight, dry basis) and operates with a maximum inlet temperature of less than or equal to 600°F. A dry rotary dryer is a process unit.

Dry forming means the process of making a mat of resinated fiber to be compressed into a reconstituted wood product such as particleboard, oriented strandboard (OSB), medium density fiberboard (MDF), or hardboard.

Fiber means the slender threadlike elements of wood or similar cellulosic material, which are separated by chemical and/or mechanical means, as in pulping, that can be formed into boards.

Fiberboard means a composite panel composed of cellulosic fibers (usually wood or agricultural material) made by wet forming and compacting a mat of fibers. Fiberboard density is less than 0.50 grams per cubic centimeter (31.5 pounds per cubic foot).

Fiberboard mat dryer means a dryer used to reduce the moisture of wet-formed wood fiber mats by operation at elevated temperature. A fiberboard mat dryer is a process unit.

Furnish means the fibers, particles, or strands used for making boards.

Glue-laminated beam means a structural wood beam made by bonding lumber together along its faces with resin.

Green rotary dryer means a rotary dryer that dries wood particles or fibers with an inlet moisture content of greater than 30 percent (by weight, dry basis) at any dryer inlet temperature or operates with an inlet temperature of greater than 600°F with any inlet moisture content. A green rotary dryer is a process unit.

Hardboard means a composite panel composed of cellulosic fibers made by dry or wet forming and pressing of a resinated fiber mat. Hardboard has a density of 0.50 to 1.20 grams per cubic centimeter (31.5 to 75 pounds per cubic foot).

Hardboard oven means an oven used to heat treat or temper hardboard after hot pressing. Humidification chambers are not considered as part of hardboard ovens. A hardboard oven is a process unit.

Hardwood means the wood of a broad-leafed tree, either deciduous or evergreen. Examples of hardwoods include (but are not limited to) aspen, birch, and oak.

Hardwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium on rollers, belts, cables, or wire mesh. Hardwood veneer dryers are used to dry veneer with less than 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be hardwood veneer dryers. A hardwood veneer dryer is a process unit.

Kiln-dried lumber means solid wood lumber that has been dried in a lumber kiln.

Laminated strand lumber (LSL) means a composite product formed into a billet made of thin wood strands cut from whole logs, resinated, and pressed together with the grain of each strand oriented parallel to the length of the finished product.

Laminated veneer lumber (LVL) means a composite product formed into a billet made from layers of resinated wood veneer sheets or pieces pressed together with the grain of each veneer aligned primarily along the length of the finished product. Laminated veneer lumber includes parallel strand lumber (PSL).

Lumber kiln means an enclosed dryer operated at elevated temperature to reduce the moisture content of lumber.

Medium density fiberboard (MDF) means a composite panel composed of cellulosic fibers (usually wood) made by dry forming and pressing of a resinated fiber mat.

Method detection limit means the minimum concentration of an analyte that can be determined with 99 percent confidence that the true value is greater than zero.

Miscellaneous coating operations means application of any of the following to plywood or composite wood products: edge seals, moisture sealants, anti-skid coatings, company logos, trademark or grade stamps, nail lines, synthetic patches, wood patches, wood putty, concrete forming oils, glues for veneer composing, and shelving edge fillers. Miscellaneous coating operations also include the application of primer to OSB siding that occurs at the same site as OSB manufacture.

MSF means thousand square feet (92.9 square meters). Square footage of panels is usually measured on a thickness basis, such as 3/8-inch, to define the total volume of panels. Equation 6 of §63.2262(j) shows how to convert from one thickness basis to another.

Nondetect data means, for the purposes of this subpart, any value that is below the method detection limit.

Oriented strandboard (OSB) means a composite panel produced from thin wood strands cut from whole logs, formed into resinated layers (with the grain of strands in one layer oriented perpendicular to the strands in adjacent layers), and pressed.

Oven-dried ton(s) (ODT) means tons of wood dried until all of the moisture in the wood is removed. One oven-dried ton equals 907 oven-dried kilograms.

Particle means a distinct fraction of wood or other cellulosic material produced mechanically and used as the aggregate for a particleboard. Particles are larger in size than fibers.

Particleboard means a composite panel composed of cellulosic materials (usually wood or agricultural fiber) in the form of discrete pieces or particles, as distinguished from fibers, which are pressed together with resin.

Permanent total enclosure (PTE) means a permanently installed containment that meets the criteria of Method 204 (40 CFR part 51, appendix M).

Plant site means all contiguous or adjoining property that is under common control, including properties that are separated only by a road or other public right-of-way. Common control includes properties that are owned, leased, or operated by the same entity, parent entity, subsidiary, or any combination thereof.

Plywood and composite wood products (PCWP) manufacturing facility means a plant site that manufactures plywood and/or composite wood products by bonding wood material (fibers, particles, strands, veneers, etc.) or agricultural fiber, generally with resin under heat and pressure, to form a structural panel or engineered wood product. Plywood and composite wood products manufacturing facilities also include facilities that manufacture dry veneer and lumber kilns located at any facility. Plywood and composite wood products include (but are not limited to) plywood, veneer, particleboard, oriented strandboard, hardboard, fiberboard, medium density fiberboard, laminated strand lumber, laminated veneer lumber, wood I-joists, kiln-dried lumber, and glue-laminated beams.

Plywood means a panel product consisting of layers of wood veneers hot pressed together with resin. Plywood includes panel products made by hot pressing (with resin) veneers to a substrate such as particleboard, MDF, or lumber.

Press predryer means a dryer used to reduce the moisture and elevate the temperature of a wet-formed fiber mat before the mat enters a hot press. A press predryer is a process unit.

Pressurized refiner means a piece of equipment operated under pressure for preheating (usually by steaming) wood material and refining (rubbing or grinding) the wood material into fibers. Pressurized refiners are operated with continuous infeed and outfeed of wood material and maintain elevated internal pressures (i.e., there is no pressure release) throughout the preheating and refining process. A pressurized refiner is a process unit.

Process unit means equipment classified according to its function such as a blender, dryer, press, former, or board cooler.

Reconstituted wood product board cooler means a piece of equipment designed to reduce the temperature of a board by means of forced air or convection within a controlled time period after the board exits the reconstituted wood product press unloader. Board coolers include wicket and star type coolers commonly found at MDF and particleboard plants. Board coolers do not include cooling sections of dryers (e.g., veneer dryers or fiberboard mat dryers) or coolers integrated into or following hardboard bake ovens or humidifiers. A reconstituted wood product board cooler is a process unit.

Reconstituted wood product press means a press, including (if applicable) the press unloader, that presses a resinated mat of wood fibers, particles, or strands between hot platens or hot rollers to compact and set the mat into a panel by simultaneous application of heat and pressure. Reconstituted wood product presses are used in the manufacture of hardboard, medium density fiberboard, particleboard, and oriented strandboard. Extruders are not considered to be reconstituted wood product presses. A reconstituted wood product press is a process unit.

Representative operating conditions means operation of a process unit during performance testing under the conditions that the process unit will typically be operating in the future, including use of a representative range of materials (e.g., wood material of a typical species mix and moisture content or typical resin formulation) and representative operating temperature range.

Resin means the synthetic adhesive (including glue) or natural binder, including additives, used to bond wood or other cellulosic materials together to produce plywood and composite wood products.

Responsible official means responsible official as defined in 40 CFR 70.2 and 71.2.

Softwood means the wood of a coniferous tree. Examples of softwoods include (but are not limited to) Southern yellow pine, Douglas fir, and White spruce.

Softwood veneer dryer means a dryer that removes excess moisture from veneer by conveying the veneer through a heated medium on rollers, belts, cables, or wire mesh. Softwood veneer dryers are used to dry veneer with greater than or equal to 30 percent softwood species on an annual volume basis. Veneer kilns that operate as batch units, veneer dryers heated by radio frequency or microwaves that are used to redry veneer, and veneer redryers (defined elsewhere in this section) that are heated by conventional means are not considered to be softwood veneer dryers. A softwood veneer dryer is a process unit.

Startup means bringing equipment online and starting the production process.

Startup, initial means the first time equipment is put into operation. Initial startup does not include operation solely for testing equipment. Initial startup does not include subsequent startups (as defined in this section) following malfunction or shutdowns or following changes in product or between batch operations. Initial startup does not include startup of equipment that occurred when the source was an area source.

Startup, shutdown, and malfunction plan (SSMP) means a plan developed according to the provisions of §63.6(e)(3).

Strand means a long (with respect to thickness and width), flat wood piece specially cut from a log for use in oriented strandboard, laminated strand lumber, or other wood strand-based product.

Strand dryer means a dryer operated at elevated temperature and used to reduce the moisture of wood strands used in the manufacture of OSB, LSL, or other wood strand-based products. A strand dryer is a process unit.

Temporary total enclosure (TTE) means an enclosure constructed for the purpose of measuring the capture efficiency of pollutants emitted from a given source, as defined in Method 204 of 40 CFR part 51, appendix M.

Thermal oxidizer means a control system that combusts or oxidizes exhaust gas from a process unit. Thermal oxidizers include regenerative thermal oxidizers and burners or combustion units that accept process exhausts in the flame zone.

Total hazardous air pollutant (HAP) emissions means, for purposes of this rulemaking, the sum of the emissions of the following six compounds: acetaldehyde, acrolein, formaldehyde, methanol, phenol, and propionaldehyde.

Tube dryer means a single-stage or multistage dryer operated at elevated temperature and used to reduce the moisture of wood fibers or particles as they are conveyed (usually pneumatically) through the dryer. Resin may or may not be applied to the wood material before it enters the tube dryer. A tube dryer is a process unit.

Veneer means thin sheets of wood peeled or sliced from logs for use in the manufacture of wood products such as plywood, laminated veneer lumber, or other products.

Veneer redryer means a dryer heated by conventional means, such as direct wood-fired, direct-gas-fired, or steam heated, that is used to redry veneer that has been previously dried. Because the veneer dried in a veneer redryer has been previously dried, the inlet moisture content of the veneer entering the redryer is less than 25 percent (by weight, dry basis). Batch units used to redry veneer (such as redry cookers) are not considered to be veneer redryers. A veneer redryer is a process unit.

Wet forming means the process of making a slurry of water, fiber, and additives into a mat of fibers to be compressed into a fiberboard or hardboard product.

Wood I-joists means a structural wood beam with an I-shaped cross section formed by bonding (with resin) wood or laminated veneer lumber flanges onto a web cut from a panel such as plywood or oriented strandboard.

Work practice requirement means any design, equipment, work practice, or operational standard, or combination thereof, that is promulgated pursuant to section 112(h) of the Clean Air Act.